

In the Claims

Please substitute the following amended claims for those currently pending:

1. (currently amended) An injection molding machine having a fixed platen and a movable platen movable toward and away from the fixed platen, the machine including an injection mold tooling assembly that comprises (a) a first mold half that is removably attached to the fixed platen, (b) a second mold half that is removably attached to the movable platen, and (c) a turret coupled to the first and second mold halves having a plurality of faces and positioned between the fixed and movable platens, wherein the entire injection mold tooling assembly comprises a single unit that is removable from the fixed and movable platens.

the turret being rotatable about an axis perpendicular to the direction of movement of the movable platen to bring different faces of the turret into alignment with the first mold half, fixed platen, the fixed platen and at least two opposed the turret faces having turret mold halves that are complementary to the first mold half mold halves that when closed define between them the desired shape of a part to be molded, the turret including an actuator for moving the turret in the direction of movement of the movable platen between a molding position in which the turret mold half halves of one turret face and the first mold half complementary mold halves of the fixed platen are closed on each other and an open position in which the turret may rotate about its axis of rotation, said actuator actuators being capable of so moving said turret or of not moving said turret independently of the movement of the movable platen, whereupon the movable platen may be moved away from the turret without opening the mold to enable access to a previously molded part at the opposite face of the turret.

2. (currently amended) The machine of claim 1 wherein said second mold half ~~movable platen~~ includes a plate recessed to accommodate the turret mold half halves and molded parts borne by a first turret face after said parts have been molded and the turret has been rotated to orient said face opposite to the turret face facing the fixed platen.

3. (currently amended) The machine of claim 1 wherein said actuator extends between said turret and said first mold half fixed platen.

4. (currently amended) The machine of claim 1 wherein said actuator comprises at least two hydraulic, pneumatic, or electric linear actuators carried at opposite sides of the turret and capable of together moving said turret out of engagement with the first mold half fixed platen independently of movement of said movable platen.

5. (withdrawn) A method for rapidly injection molding parts in an injection molding machine having fixed and movable platens, and a rotatable turret between the platens and having at least two oppositely facing faces bearing mold halves complementary to a mold half borne by the fixed platen, the method including closing the movable platen on the turret and fixed platen to close the mold formed by the complementary mold halves carried by the fixed platen and one of the turret faces, injecting molten plastic into the closed mold, maintaining the closed mold under pressure for the duration of the injection, pack and hold period, and withdrawing the movable platen from the turret without opening the mold to enable further processing of a previously molded part carried by the opposed turret face.

6. (withdrawn) The method of claim 5 wherein withdrawal of the movable platen from the turret exposes said previously molded part.

7. (withdrawn) The method of claim 6 wherein, following withdrawal of the movable platen from the turret to expose said previously molded part, that part is ejected from the machine.

8. (withdrawn) The method of claim 6 including moving said exposed, previously molded part to a different mold half carried by the said opposed turret face.

9. (withdrawn) The method of claim 8 including subsequently opening the closed mold, and rotating the turret to bring said opposed turret face and its mold halves into alignment with said fixed platen, closing the mold by moving the movable platen and the turret toward the fixed platen.

10. (withdrawn) The method of claim 9 including subsequently injecting plastic into the closed mold and into contact with said previously molded part.

11. An injection mold tooling assembly, comprising:
a first apparatus mold half configured to be connected to a fixed platen of an injection molding machine;
a second apparatus mold half configured to be connected to a movable platen of the injection molding machine, the movable platen being translatable toward and away from the fixed platen along a direction of travel;

a turret positioned between and coupled to the first and second apparatus mold halves, the turret having a plurality of turret faces, each turret face having a turret mold half; and a turret actuator coupled to the turret, the turret actuator being configured (a) to translate the turret (i) along the direction of travel, (ii) relative to the first apparatus mold half, (iii) independently of the translation of the movable platen, and (iv) between a closed position in which one of the plurality of faces of the turret is pressed against the first apparatus mold half and an open position in which the turret is removed from the first apparatus mold half, and (b) to rotate the turret (i) about an axis that is generally perpendicular to the direction of travel, (ii) while the turret is in the open position, and (iii) through a first open position in which a first turret face is aligned with the first apparatus mold half and a second open position in which the first turret face is aligned with the second apparatus mold half,

wherein the entire injection mold tooling assembly comprises a single unit that is removably attachable to the injection molding machine.

12. (new) The injection mold tooling assembly of claim 11, wherein molds made by pressing the turret mold halves together with the apparatus mold halves are configured to hold multiple molded articles.

13. (new) The injection mold tooling assembly of claim 11, wherein one of the plurality of faces of the turret and the first apparatus mold half form a first mold when in the closed position.

14. (new) The injection mold tooling assembly of claim 13, wherein the second mold half is configured to be pressed against a respective turret mold half to form a second mold.

15. (new) The injection mold tooling assembly of claim 14, wherein the second mold is configured to add a second material to a previously molded article.

16. (new) The injection mold tooling assembly of claim 15, wherein the previously molded article is part of a toothbrush handle.

17. (new) The injection mold tooling assembly of claim 14, wherein the second mold is configured to mold material over a previously loaded insert.

18. (new) The injection mold tooling assembly of claim 14, further comprising an ejector configured to eject a molded article from the second mold while the turret is in the closed position.

19. (new) The injection mold tooling assembly of claim 11, wherein the turret actuator comprises at least two linear actuators carried at opposite sides of the turret.

20. (new) The injection mold tooling assembly of claim 18, wherein the linear actuators are selected from the group consisting of hydraulic actuators, pneumatic actuators, electric actuators, or combinations thereof.

21. (new) The injection mold tooling assembly of claim 11, wherein the turret has exactly two turret faces having turret mold halves, and the turret actuator is configured to rotate the turret only in multiples of 180 degrees.

22. (new) The injection mold tooling assembly of claim 11, wherein, when the turret is in the closed position, one of the turret faces that is not pressed against the first apparatus mold half is configured to receive an insert to be molded over.

23. (new) The injection mold tooling assembly of claim 11, wherein the turret actuator extends between the turret and the first apparatus mold half.

24. (new) An injection mold tooling assembly, comprising:

a first apparatus mold half configured to be connected to a fixed platen of an injection molding machine;

a second apparatus mold half configured to be connected to a movable platen of the injection molding machine, the movable platen being translatable toward and away from the fixed platen along a direction of travel;

a turret positioned between and coupled to the first and second apparatus mold halves, the turret having exactly two turret faces that have turret mold halves; and

a turret actuator coupled to the turret, the turret actuator being configured (a) to translate the turret (i) along the direction of travel, (ii) relative to the first apparatus mold half, (iii) independently of the translation of the movable platen, and (iv) between a closed position in which one of the plurality of faces of the turret is pressed against the first apparatus mold half and an open position in which the turret is removed from the first apparatus mold half, and (b) to rotate the turret (i) about an axis that is generally perpendicular to the direction of travel, (ii) while the turret is in the open position, and (iii) through a first open position in which a first

turret face is aligned with the first apparatus mold half and a second open position in which the first turret face is aligned with the second apparatus mold half,
wherein the entire injection mold tooling assembly comprises a single unit that is
removably attachable to the injection molding machine, and
wherein the first and second open positions are spaced 180 degrees apart.

25. (new) The injection mold tooling assembly of claim 24, wherein (a) one of the plurality of faces of the turret and the first apparatus mold half form a first mold when in the closed position, (b) the second mold half is configured to be pressed against a respective turret mold half to form a second mold, and (c) the second mold is configured to add a second material to a previously molded article.

26. (new) The injection mold tooling assembly of claim 24, wherein (a) one of the plurality of faces of the turret and the first apparatus mold half form a first mold when in the closed position, (b) the second mold half is configured to be pressed against a respective turret mold half to form a second mold, and (c) the second mold is configured to mold material over a previously loaded insert.